UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,902	11/12/2003	John Warren Maly	200207608-1	9445

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EXAMINER
MERANT, GUERRIER

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/712,902	MALY ET AL.
	Examiner	Art Unit	
	Guerrier Merant	2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11/12/03_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _12 November 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

1.   This is the initial Office Action based on the application filed on 11/12/03. Claims

1-22 are currently pending and have been considered below.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> a.   The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter, which the applicant regards as his invention.

3.   Claims 1, 3, 5, 6 and 22 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

4.   As per claims 1 and 22: It is unclear to the Examiner of whether the word "agent"

is a circuit, a signal wave, a computer program, etc.

5.   As per claim 3: It is not clear to the Examiner what the Applicant is trying to claim

because the "corresponding expected output signal" is ambiguous.

6.   As per claim 5: The word "event" is not clear because it does not correspond to

the "event" described in the specification (e.g. pages 6-8). Therefore the claim is

indefinite.

7.   As per claim 6: The words "event" and "expectation" are not clear because they

do not correspond to the "event" and "expectation described in the specification (e.g.

pages 6-8). Therefore, the claim is indefinite.

8.   Claims 2-3 inherit the 35 U.S.C. 112, first and second paragraph issues of the

independent claim 1 by virtue of their dependency.

Claim Rejections - 35 USC § 101

9.   35 U.S.C. 101 reads as follows:

> b.   Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
> subject to the conditions and requirements of this title.

10.   Claims 1, 4 and 22 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

11.   As per claims 1 and 22:

c.   The "agent" is considered to be a computer program (which has no input

pins to receive data) that is not embodied in a computer readable medium. Also,

there are no tangible results after the output signal of the agent is compared with

an expected output because the comparison result does not say if there is a

failure at the output signal of the agent.

12.   As per claim 4:

d.   There are no tangible results after the output signal of the agent is

monitored by the program code because it does not say if there is a failure at the

output signal of the agent.

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14.   Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Goto**

(US 5,617,429).

Claim 1: **Goto** teaches a computer implemented method of verifying events generated

by an agent, said method comprising:

detecting an input signal at an input of said agent *(e.g. col. 11, lines 44-49)*;

generating an expected output signal based at least in part on said input signal

and detecting an output signal at an output of said agent, wherein said output signal is a

translation of said input signal generated by said agent (e.g. col. 12, lines 14-21);

comparing said output signal with said expected output signal to verify whether

said agent produced said output signal correctly based on said input signal (e.g. col. 11,

lines 66-67 & col. 12, lines 1-5).

Claim 2: **Goto** teaches a method as in claim 1 above, further comprising signaling an

error if said output signal does not correctly match said expected output signal (e.g. col.

12, lines 63-67 & col. 13, lines 1-3).

Claim 3: **Goto** teaches a method as in claim 1 above, further comprising signaling an error if said output signal has no corresponding expected output signal. (e.g. col. 12, lines 63-67 & col. 13, lines 1-3).

Claim 4: **Goto** teaches an apparatus for producing expectations to verify events generated by an agent comprising: at least one computer readable medium and computer readable program code stored on said at least one computer readable medium, said computer readable program code comprising:

program code for monitoring at least one input of said agent for a stimulus *(e.g. col. 11, lines 44-49)*;

program code for producing an expectation of an event or output, wherein said event is expected to be generated by said agent as a result of said stimulus (e.g. col. 12, lines 14-21);

and program code for monitoring at least one output of said agent for said event (e.g. col. 11, lines 66-67 & col. 12, lines 1-5).

Claim 5: **Goto** teaches an apparatus as in claim 4 above, further comprising program code for signaling an error if said event is not detected at said at least one output (e.g. col. 12, lines 63-67 & col. 13, lines 1-3).

Claim 6: **Goto** teaches an apparatus as in claim 4 above, further comprising program

code for signaling an error if said an event is detected at said at least one output for which no expectation has been produced (e.g. col. 12, lines 63-67 & col. 13, lines 1-3).

Claim 7: **Goto** teaches an apparatus as in claim 4 above, wherein said program code for monitoring said at least one input of said agent for said stimulus comprises program code for monitoring at least one input of a memory agent for said stimulus *(e.g. col. 11, lines 44-49)*, said stimulus being selected from a group consisting of an initial request to perform a memory operation, a snoop response, and a read response (e.g. col. 1, lines 29-35; col. 13, lines 35-54).

Claim 8: **Goto** teaches an apparatus as in claim 4 above, wherein said program code for monitoring said at least one input of said agent for said stimulus comprises program code for identifying said stimulus using correlative information in said stimulus (e.g. col. 12, lines 33-52).

Claim 9: **Goto** teaches an apparatus as in claim 8 above, wherein said correlative information comprises transaction identification (e.g. col. 14, lines 1-7).

Claim 10: **Goto** teaches an apparatus as in claim 8 above, wherein said correlative information comprises an address of memory being accessed by said stimulus and an identity of a source of said stimulus (e.g. col. 14, lines 8-25).

Claim 11: **Goto** teaches an apparatus as in claim 4 above, wherein said program code

for monitoring said at least one input of said agent for said stimulus comprises program

code for gathering said stimulus from a plurality of separately transmitted

portions (e.g. col. 14, lines 9-20).

Claim 12: **Goto** teaches an apparatus as in claim 11 above, wherein said program code

for gathering said stimulus from said plurality of separately transmitted portions

comprises program code for establishing a watch list, said watch list containing an entry

for each stimulus for which said separately transmitted portions are being awaited (e.g.

col. 14, lines 20-40), and wherein said program code for monitoring said at least one

input of said agent for said stimulus comprises: program code for detecting one of said

separately transmitted portions at said at least one input; program code for searching

said watch list for said stimulus for which said one of said separately transmitted

portions was being awaited and program code for adding said one of said separately

transmitted portions to said stimulus (e.g. col. 15, lines 51-65).

Claims 13: **Goto** teaches an apparatus as in claim 4 above, wherein said program code

for producing said expectation of said event comprises program code for creating a

transaction record to contain information relating to a memory transaction involving said

agent (e.g. col. 15, lines 35-50).

Claim 14: **Goto** teaches an apparatus as in claim 13 above, wherein said program code for producing said expectation of said event further comprises: program code for creating an expectation record to contain information relating to an expected event from said agent; and program code for associating said expectation record with said transaction record (e.g. col. 15, lines 44-65).

Claim 15: **Goto** teaches an apparatus as in claim 4 above, wherein said program code for producing said expectation of said event comprises program code for storing expected data associated with said expectation (e.g. col. 14, lines 9-20), said expected data being received in a plurality of separate incoming transmissions in said stimulus, said expected data being expected to be transmitted by said agent in a plurality of separate outgoing transmissions in said event (e.g. col. 14, lines 8-20).

Claim 16: **Goto** teaches an apparatus as in claim 15 above, further comprising: program code for comparing said expected data with actual data in said event (e.g. col. 15, lines 3-11); program code for signaling an error if said expected data does not match said actual data and program code for signaling an error if said actual data is not expected (e.g. col. 26-35).

Claim 17: **Goto** teaches an apparatus as in claim 15 above, further comprising program code for signaling an error if any of said plurality of separate outgoing transmissions is

detected before all of said plurality of separate incoming transmissions have been received (e.g. col. 26-35).

Claim 18: **Goto** teaches an apparatus as in claim 15 above, wherein said program code for monitoring said at least one output of said agent for said event begins monitoring said at least one output for said plurality of separate outgoing transmissions as soon as a first of said plurality of separate incoming transmissions has been received (e.g. col. 16, lines 42-58).

Claim 19: **Goto** teaches an apparatus as in claim 18 above, wherein said program code for storing said expected data comprises identifying said first of said plurality of separate incoming transmissions using correlative information in said first of said plurality of separate incoming transmissions (e.g. col. 12, lines 33-52) and further comprising identifying subsequent transmissions of said plurality of separate incoming transmissions by their being contiguously transmitted on a same input of said agent as said first (e.g. col. 11, lines 8-20).

20. **Goto** teaches an apparatus as in claim 19 above, wherein said same input of said agent comprises a same physical and virtual input channel (e.g. col. 17, lines 10-20).

Claim 21: **Goto** teaches an apparatus as in claim 18 above, wherein said program code for storing said expected data comprises identifying each of said plurality of separate

incoming transmissions using correlative information in said each of said plurality of separate incoming transmissions to enable gathering and sorting of interleaved transmissions belonging to different stimuli (e.g. col. 12, lines 33-52; col. 14, lines 8-25).

Claim 22: It appears the applicant is attempting to invoke U.S.C.112, 6th paragraph by using the phrases "means for", However, the specification does not describe any specific structures (means) for performing these functions, thus U.S.C. 112 6th is not invoked.

Goto teaches an apparatus for testing an agent in a computer system, comprising:

means for detecting at least one incoming message as it is received by said agent *(e.g. col. 11, lines 44-49)*;

means for determining at least one expected outgoing message that should be produced by said agent in response to said incoming message (e.g. col. 12, lines 14-21);

and means for verifying whether said agent generates an outgoing message matching said expected outgoing message (e.g. col. 11, lines 66-67 & col. 12, lines 1-5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Merant Guerrier whose telephone number is (571)

270-1066. The examiner can normally be reached Monday through Thursday from 10:

30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jacques Louis Jacques, can be reached on (571) 272-6962. Draft or

Informal faxes, which will not be entered in the application, may be submitted directly to

the examiner at (571) 270-2066.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Britt/
Primary Examiner
Art Unit 2117
8/3/07

Guerrier Merant
07/27/07